

# Abstract

The effects of several growth parameters in cylindrical and spherical Czochralski crystal process are studied numerically and particularly, we focus on the influence of the pressure field. We present a set of three-dimensional computational simulations using the finite volume package Fluent in two different geometries, a new geometry as cylindro-spherical and the traditional configuration as cylindro-cylindrical. We found that the evolution of pressure which is has not been studied before; this important function is strongly related to the vorticity in the bulk flow, the free surface and the growth interface. It seems that the pressure is more sensitive to the breaking of symmetry than the other properties that characterize the crystal growth as temperature or velocity fields.